

Designing of Mechanical (Cont.)

SOV/3453

factors. Fundamentals of designing speed reducers, variable speed drives, and various types of mechanical transmission are explained. Methods of designing for strength are also discussed. Examples of design and construction of drives are presented. No personalities are mentioned. There are 67 Soviet references.

TABLE OF CONTENTS:

| | |
|--|----|
| Foreword | 3 |
| Ch. I. Assignment for a Term Project on Machine Parts (K.N. Bokov, Engineer) | 5 |
| 1. The scope and content of the assignments | 5 |
| 2. Examples of assignments | 8 |
| Ch. II. Making Drawings and Calculation Notes | 33 |
| 3. Basic requirements for preparation of drawings (K.N. Bokov) | 33 |
| 4. Preparation and the form of calculation notes (G.M. Itskovich, Engineer) | 39 |

Card 2/8

Designing of Mechanical (Cont.)

SOV/3453

| | |
|--|-----|
| Ch. III. Kinematic Design of Drives, and Selection of Electric Motor (S.A. Chernavskiy, Docent, Candidate of Technical Sciences) | 43 |
| 5. Selecting the type of drive | 43 |
| 6. Selecting the electric motor | 46 |
| 7. Triphase, induction motors | 50 |
| 8. Total ratio of a drive, and its division into steps | 52 |
| Ch. IV. General Information on Speed Reducers (G.M. Itskovich) | 58 |
| 9. Review of basic types of speed reducers | 58 |
| 10. Dividing the total ratio in speed reducers into steps | 83 |
| Ch. V. Designing of Gearings (G.M. Itskovich) | 86 |
| 11. General information | 86 |
| 12. Straight, helical and herringbone spur gears | 89 |
| 13. Bevel gears | 99 |
| 14. Safety factor | 103 |
| 15. Materials for gears, and allowed stresses | 108 |
| 16. Correction of gearing (B.P. Kozintsov, Docent, Candidate of Technical Sciences) | 118 |

Card 3/8

Designing of Mechanical (Cont.)

SOV/3453

| | |
|--|-----|
| Ch. VI. Designing Planetary Gear Trains (B.P. Kozintsov) | 133 |
| 17. General information | 133 |
| 18. Design and construction of planetary gear trains | 140 |
| 19. Sample design of a planetary speed reducer | 153 |
| Ch. VII. Designing Worm Gearings (G.M. Itskovich) | 164 |
| 20. General information | 164 |
| 21. Basic parameters of a worm gearing | 165 |
| 22. Designing worm and wheel for contact strength and bending | 169 |
| 23. Materials and allowed stresses | 174 |
| 24. Designing a worm for strength and rigidity | 177 |
| 25. Correction of worm gearing (B.P. Kozintsov) | 181 |
| Ch. VIII. Design of Shafts (G.M. Itskovich) | 184 |
| 26. Loads on shafts | 184 |
| 27. Design and check calculations of shafts | 189 |
| 28. Key, spline, and serration joints | 199 |
| Ch. IX. Designing Shaft Supports on Rolling Contact Bearings (K.N. Bokov) | 209 |
| 29. Sequence in designing bearing mountings | 209 |

Card 4/8

Designing of Mechanical (Cont.)

SOV/3453

| | | |
|---------|--|-----|
| 30. | Selecting the type of bearing | 210 |
| 31. | Construction requirement for bearing mountings | 217 |
| 32. | Special features of mounting rolling bearings in speed reducers | 225 |
| 33. | Fits of bearings on shaft and in housing | 232 |
| 34. | Requirement for bearing mountings, and selection of diameters | 241 |
| 35. | Lubrication and packing of bearing mounting | 261 |
| 36. | Selecting bearings by their dynamic and static carrying capacity | 276 |
| Ch. X. | Design and Calculation of Shaft Supports on Sliding Surface Bearings (S.A. Chernavskiy) | |
| 37. | Reasons for selecting sliding bearings | 285 |
| 38. | Construction of sliding bearings | 288 |
| 39. | Materials for bushing | 303 |
| 40. | Designing sliding bearings | 309 |
| 41. | Examples of design of sliding bearings | 325 |
| Ch. XI. | Designing Parts for Speed Reducers and Gear Boxes. Lubrication of Tooth-and Worm-Gearings (V.A. Kiselev, Engineer) | 336 |

Card 5/8

Designing of Mechanical (Cont.)

SOV/3453

| | |
|--|-----|
| 42. Design of tooth and worm gears, worms, and shafts | 336 |
| 43. Design of housings for speed reducers and gear boxes | 355 |
| 44. Design of shifting mechanisms for gear boxes | 372 |
| 45. Lubrication of speed reducers and non-encased gearings | 375 |
| 46. Design of speed reducers for thermal capacity | 397 |
| 47. Fits for the basic parts of speed reducers | 409 |
| Ch. XII. Design of Belt Drives | 410 |
| 48. Selecting basic parameters | 410 |
| 49. Flat belts | 411 |
| 50. Design of a flat belt drive | 414 |
| 51. Drive with an idler pulley | 425 |
| 52. V-belt drive | 430 |
| Ch. XIII. Chain Drives (S.A. Chernavskiy) | 441 |
| 53. General information. Types of chains | 441 |
| 54. Selecting basic parameters of a chain drive | 447 |
| 55. Selection and check calculation of chains | 452 |
| 56. Design of sprocket tooth form | 457 |

Card 6/8

Designing of Mechanical (Cont.)

SOV/3453

Ch. XIV. Design of Variable Speed Drives (M.A. Bonch-Osmolovskiy,
Docent, Candidate of Technical Science.) 462

- 57. General information on the mechanical, continuous speed regulation 462
- 58. Variable speed drives with flexible connectors 465
- 59. All-metal design variable speed drives 487

Ch. XV. Design of Couplings and Clutches (S.A. Chernavskiy) 519

- 60. Selecting the type of coupling 519
- 61. Rigid couplings 521
- 62. Flexible couplings 525
- 63. Torsionally flexible couplings 534
- 64. Clutches 561
- 65. Overload release couplings 579

Ch. XVI. Design of Springs 593

- 66. Tension-compression cylindrical helical spring (Engineer V.I. Yerdakov) 593

Card. 7/8

| | |
|---|----------|
| Designing of Mechanical (Cont.) | SOV/3453 |
| 67. Belleville springs (G.M. Itskovich, and V.I. Yerdakov) | 608 |
| Ch. XVII. Examples of Design | 613 |
| 68. Design of a drive with a bevel and spur-gear speed reducer for an over-head conveyor (V.A. Kiselev) | 613 |
| 69. Design of a drive with a variable speed drive and a double worm gear reducer (M.A. Bonch-Osmolovskiy) | 648 |
| Appendix | 681 |
| Bibliography | 735 |
| AVAILABLE: Library of Congress | VK/jb |
| Card 8/8 | 6-28-60 |

BOKOV, Kirill Nikolayevich; ITSKOVICH, Georgiy Mikhaylovich, inzh.; KISELEV,
Vyacheslav Aleksandrovich; CHERNAVSKIY, Sergey Aleksandrovich;
GIL'DENBERG, M.I., red.izd-vs; MODEL', B.I., tekhn.red.

[Course in the design of machine parts; text and reference book]
Kursovoe proektirovanie detalei mashin; uchebno-spravochnoe posobie.
Izd.3. Leningrad, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry,
1960. 507 p. (MIRA 13:11)

(Machinery--Design)

MOVNIN, Mikhail Savel'yevich, doktor tekhn. nauk, prof.; MITINSKIY, Arsenii Nikolayevich, prof.[deceased]; prinyal uchastiye: GOL'TSIKER, D.G., inzh.; BORISOV, V.N., dotsent, kand. tekhn. nauk, retsenzent; SAMUYLO, V.O., V.O.dots., retsenzent; TAUBER, B.A., prof., retsenzent; CHERNAVSKIY, S.A., dotsent, retsenzent; ITSKOVICH, G.M., inzh., nauchnyy red.; PITERMAN, Ye.L., red. izd-va; PARAKHINA, N.L., tekhn. red.

[Technical mechanics; strength of materials, theory of mechanisms and machines. Machine parts] Tekhnicheskaya mekhanika; soprotivleniye materialov; teoriya mekhanizmov i mashin. Detali mashin. Izd. 2., perer. (MIRA 14:6)
Moskva, Goslesbumizdat, 1961. 781 p.
(Mechanical engineering) (Strength of materials)

ITSKOVICH, Georgiy Mikhailovich; VINOKUROV, Anatoliy Ivanovich. Pri-
nimali uchastiye: SUDAKOVA, N.I.; GAVRILOV, Yu.V.; MAKUSHIN, V.M.,
laureat Leninskoy premii, prof., retsenzent; IY ZHENKOV, A.A.,
inzh., retsenzent; SAPOZHKO, N.M., nauchnyy red.; SHAURAK, Ye.N.,
red.; KOROVENKO, Yu.N., tekhn. red.

[Collected problems on the strength of materials] Sbornik zadach
po soprotivleniiu materialov. Leningrad, Sudpromgiz, 283 p.
(MIRA 15:6)

(Strength of materials--Problems, exercises, etc.)

S/133/61/000/006/001/017
A054/A129

AUTHORS: Itskovich, G. M., Gankin, V. B., - Engineers

TITLE: Structure of continuous rimming steel ingots

PERIODICAL: Stal', no. 6, 1961, 505-514

TEXT: The introduction of continuous rimming steel casting on an industrial scale in the Novolipetsk Plant was made possible after an extended investigation in this field, (in the UNRS of the Novo-Tula Plant more than 500 tests were carried out). 90-ton ladles and crystallizing molds 150 x 620, 150 x 770 and 170 x 1,020 mm in cross-section were used in the process. The section of continuously cast ingots depends on the dimensions of the rolling mill used in this plant and therefore it was smaller than that of conventional ingots rolled on blooming or slab mills. The pouring speed depends on the time required for emptying the ladle and on the quality of steel. 170 x 1,020 mm section ingots are poured at a rate of 0.6 m/min, those with a section of 150 x 620 mm at a 0.8 - 0.9 m/min rate, whereas for the conventional ingots the speed of bottom casting is not more than 0.3 m/min. The practice in the plants referred to showed that continuous casting of rimming steel in 200 x 200, 150 x 620, ✓

Card 1/6

Structure of continuous rimming steel ingots

S/133/61/000/006/001/017

AO54/A129

150 x 770 and 170 x 1,020 mm section molds takes place at a uniform rimming of the metal without any outbursts and effervescence. The special features of continuous casting are reflected in the structure of rimming steel ingots, mainly on account of the intensity of gas-separation in this process. In the structure of continuous castings there are only three zones instead of five as in conventional castings: an external skin, a zone not developed to any marked extent and containing surface-blow holes, moreover a central zone which is denser than that of standard castings. The special features of continuous casting responsible for this change in the structure of the ingots are: pouring from the top, at a greater speed than usually, into molds having smaller cross section; the downward flow of the molten metal meets a rising flow of gas and metal and this has a regulating effect on the metal circulation, so that it takes place without any turbulence; the initial speed of crystallization is higher, the depth of the liquid phase is also greater and the hydrostatic pressure in the central part of the casting during solidification is higher than for the usual process. The factors which have a very pronounced effect on the quality of rimming steel are the degree of oxidation and the temperature of the metal, because these factors affect the separation of gases and skin formation. By obtaining the optimum degree of oxidation and by improving the construction of the mold walls,

Card 2/6

S/133/61/000/006/001/017
A054/A129

Structure of continuous rimming steel ingots

it is possible to produce a continuous rimming steel ingot with a compact external skin, not containing blow holes, (with a carbon-content of the metal of less than 0.10%). At pouring rates of 0.5 m/min for the $C_{T.3kp}$, $C_{T.4kp}$ (St.3kp, St.4kp) steel ingots of 170 x 1,020, 200 x 1,000, 200 x 1,200 mm and of 0.9 m/min for 200 x 200, 150 x 600 mm sections, the relation between pouring rate and the thickness of the external skin has a linear character. At higher rates than indicated above the width of the external skin sharply decreases most probably due to the decrease in gas-separation, caused by the rise of hydrostatic pressure, whereby the possibility of removing blow holes decreases. The effect of temperature on the structure of the ingot was determined on a casting with a 0.14 - 0.17 carbon content and 0.32 - 0.47% manganese content at a pouring rate of 0.7 m/min. It was found that by increasing the temperature from 1,515 to 1,560°C and above, the thickness of the external skin decreases due to the effect of high temperature on the reaction rate of gas-separation (Fig. 5). By blowing oxygen through the metal during pouring from the ladle the thickness of the external skin can be increased considerably. Thus, the arrangement of surface blowholes can efficiently be controlled at high pouring rates. With regard to the central zone of the casting it was found that the increased depth of the liquid phase (3.5 - 6.3 m) results in crystallization at higher hydrostatic pressure than in the conventional

Card 3/6

Structure of continuous rimming steel ingots

S/133/61/000/006/001/017
A054/A129

process. Due to this fact, the central zone of medium-carbon-containing rimming steel is more dense and blow holes do not develop. At a given section of the ingot and a given pouring rate the density of the central zone depends on the carbon and oxygen content of the metal. The chemical composition of continuous rimming steel ingots displays a greater uniformity than the usual ones, both vertically and horizontally. Any departure from this uniformity, a segregation of elements can only be observed to some extent in the top of the ingot. The distribution of sulfur in the central zone of St.3kp and St.4kp ingots is considerably more uniform than in the conventional ingots. The distribution of elements in the various structural zones of the continuous casting depends to a great extent on the intensity of gas-separation and on the control of the metal-circulation. The higher degree of uniformity in the chemical composition made a reduction of the cropping to 1% possible compared with 8-15% croppings necessary for the conventional castings. Some of the tests (in the "Krasnoye Sormovo" Plant and the Novo-Tula Plant) were carried out with the cooperation of N. A. Nikolayev, V. B. Gankin (from TsNIChM). There are 16 figures, 1 table and 15 references: 9 Soviet-bloc and 6 non-Soviet-bloc. ✓

ASSOCIATION; TsNIChM

Card 4/6

ITSKOVICH, Georgiy Mikhaylovich; VINOKUROV, Anatoliy Ivanovich;
KOROTKOVA, A.V., red.; GARINA, T.D., tekhn. red.

[Strength of materials] Soprotivlenie materialov; rukovodstvo
dlya uchashchikhsia mekhaniko-mashinostroitel'nykh spetsial'-
nostei zaochnykh tekhnikumov. Izd.2., perer. Moskva, Gos.
izd-vo "Vysshaya shkola," 1962. 78 p. (MIRA 16:5)
(Strength of materials)

S/193/62/000/005/001/003
A004/A101

AUTHOR: Itskovich, G. M.

TITLE: Continuous casting of rimming steel for the production of hot-rolled metal

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 5, 1962, 3-10

TEXT: The author presents a detailed survey on the extensive research work in the field of smelting and continuous casting of rimming steel, which was carried out between 1958 and 1961 under the author's supervision by the Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii TsNIIchermet (Central Scientific Research Institute of Ferrous Metallurgy) together with a number of plants and institutes. As a result of these works the possibility was established to produce on an industrial scale hot-rolled non-pickled metal from continuous-cast ingots of rimming steel, while a technology of smelting the steel in open-hearth and electric-arc furnaces and continuous casting of rimming steel has been developed. In the course of the work, more than 1,000 test heats were cast in crystallizers at the Novo-Tul'skiy metallurgicheskiy zavod (Novo-Tul'skiy Metallurgical Plant) NIMZ, while the first continuous casting of

Card 1/3

Continuous casting of rimming steel ...

S/193/62/000/005/001/003
A004/A101

rimming steel smelted in electric furnaces was carried out at the Novo-Lipetskiy metallurgicheskii zavod (Novo-Lipetskiy Metallurgical Plant) NLNZ from ladles of 90-ton capacity. The author gives a detailed report on the various factors influencing the process of continuous casting of rimming steel for the production of hot-rolled metal. It was found that an insufficient oxidation leads to a weak rimming of the metal in the crystallizer and thus results in the continuous ingots having too thin an outer skin. The important role of the metal temperature is elucidated in detail. The author investigates the effect of the castability of the steel and that of the refractory material on the quality of the finished product. The casting rate in the continuous casting of rimming steel varies from 0.5 m/min for larger sections to 0.8 - 1.0 m/min for medium ones. Axial cracks can be eliminated during the secondary cooling if the right conditions of water consumption are selected and the operation of the secondary cooling installation is carefully controlled. The author investigates the effect of various factors on the macrostructure of continuous ingots of rimming steel, comments on the external defects of these ingots and presents the following technological and economic data: At the Novo-Lipetskiy Plant the metal charge consumption per ton of serviceable slabs amounts to 1.136 tons, in some months it did not exceed 1.127 tons. According to the data of a big metallurgical

Card 2/3

Continuous casting of rimming steel ...

S/193/62/000/005/001/003
A004/A101

plant [Abstracter's note: no name given] the metal charge consumption per ton of rolled slab in 1960 amounted to 1.262 tons. The technological waste in the continuous casting of rimming steel amounts to 2.5 - 3%, while rejects were less than 1% of the cast slabs. The consumption coefficient obtained for the rolling of cast slabs into hot-rolled sheet of 2 - 4 and 10 - 20 mm gauge did not differ as to metal consumption from the coefficient obtained for the rolling of rolled slabs and amounted to 1.08 on the average. There are 5 figures.

Card 3/3

S/133/62/000/005/004/008
A054/A127

AUTHORS: Itskovich, G.M., Engineer, Zubarev, A.G., Engineer, Gankin, V.B.,
Engineer, Petrichenko, D.P., Engineer, and Genkin, V.Ya., Engineer

TITLE: The smelting of rimming steel in 80-ton electric furnaces with continuous pouring

PERIODICAL: Stal', no. 5, 1962, 420 - 425

TEXT: The industrial-scale electric smelting of rimming steel is carried out in furnaces with a rated capacity of 80 tons and an actual capacity of 90 - 95 tons, (transformer capacity: 25,000 kW, electrode-diameter: 555 mm, depth of the bath: 1000 mm). Tests have shown that one of the most important conditions of this process is the oxidation of the metal before tapping which determines its uniform rimming in the ingot mold. The oxygen quantity involved in the process depends mainly on the carbon content of the metal and the ferric oxide content of the slag. This, in turn, is conditioned by the quantity of ore added to the charge and the basicity of the slag. For slags with a basicity of 3.0 - 5.0 and at metal temperatures of 1635 - 1645°C, the average value of FeO_{total} was 24.1%; [Abstracter's note: subscript total is the translation of the Russian subscript

Card 1/5

S/133/62/000/005/004/008
A054/A127

The smelting of.....

общий - (obshchiy)], at temperatures above 1660°C: 18.2%. To obtain the required oxidation during rimming of the metal three methods were used: a) adding ore, b) with oxygen and ore, c) with oxygen alone. Generally method b) is applied, ensuring quick heating of the bath, a higher oxidation rate of carbon (0.25 - 1.0% C per hour) and a ferric oxide content of the slag of 20.3%. The optimum metal temperature at the beginning of oxygen blowing was found by tests to be 1,570 - 1,580°C. The optimum degree of metal oxidation ensuring a uniform rimming in the mold, can be obtained when the slag contains 15 - 23% FeO_{total} before reduction. Oxidation and rimming can be promoted by adding 50 - 200 g/ton aluminum in the ladle, depending on the carbon content and oxidation of the slag. Desulfuration of the metal takes place most intensively (before slag tapping) at a slag basicity of 2.5 - 3.0. In this case it will be 0.011% of the smelt (average value). When electro-smelting of rimming steel is combined with continuous pouring, the charge must be composed so that the carbon content of the smelting metal is 0.10 - 0.20% higher than prescribed for the given grade. The charge usually consists of 80 tons iron-steel scrap, 5 tons scrap and waste from the converting shops and 5 tons pig iron; the first batch (55 - 65% of the charge) is molten in 1 - 1.5 hours, then 1.5 - 2.5% ore is added to obtain a 13 - 20% FeO_{total} content of the slag, then lime or limestone (4 - 5% or 7 - 8% respective-
Card 2/5

S/133/62/000/005/004/008
A054/A127

The smelting of.....

ly) is added to get a slag basicity of 2.5 - 3.0. Pig iron stabilizes the carbon content during smelting and improves desulfuration at the beginning of rimming. Oxygen (98.5 - 99.2% pure) is blown through the bath twice, for 8 - 15 minutes, at a pressure of 10 - 13 atm. The average oxygen consumption per smelt is 3 - 8 m³/ton. The temperature upon the first oxygen blowing should be over 1560°C, before the second blowing over 1580°C, to prevent over-oxidation of the metal. The composition of steel grades produced by the method is: (in %)

| | C | Mn | S | P |
|-----------------|------|------|-------|-------|
| Ст.3кп (St.3kp) | 0.17 | 0.40 | 0.040 | 0.022 |
| Ст.2кп (St.2kp) | 0.11 | 0.40 | 0.034 | 0.012 |
| Ст.1кп (St.1kp) | 0.09 | 0.35 | 0.035 | 0.011 |

Continuous pouring is carried out with double-channel, vertical type equipment, for casting 150 x 620, 150 x 780 and 170 x 1040 mm ingots. Close attention was paid to the ladle-spout lining. The best results were obtained by using for the ladle and intermittent ladle casings with a high aluminum oxide content, which last longer and ensure a controlled flow of a quantity of 90 tons of molten steel. The pouring rates are: for 150 x 620 mm ingots 0.8 - 0.9 m/min, for 150 x 780 mm ingots 0.7 - 0.8 m/min and for 170 x 1040 mm ingots 0.5 - 0.6 m/min. Pouring 90 tons of metal through two channels requires 65 - 70 minutes. The rate of

Card 3/5

The smelting of.....

S/133/62/000/005/004/008
A054/A127

pouring is limited by the shortness of the secondary cooling sector (6.5m), where the metal solidifies. The rimming of the steel in the mold, in case of medium-carbon grades, can be promoted by adding aluminum, in the case of medium-carbon grades by blowing oxygen into the metal stream after the intermittent ladle. The macrostructure of continuously poured, electro-smelted steels was studied with 110 templates taken from 67 heats. Due to the low iron content and inadequate addition of aluminum in the ladle, the metal with a carbon content above 0.13% rims weakly in the mold and much too thin a skin forms. In this case, blowing oxygen will intensify rimming and a normal skin, 10 - 25 mm thick, will be obtained. Other defects often encountered in this kind of ingots are blisters in the skin, 0.5 - 3.0 mm in diameter, at a depth of 1 - 5 mm below the surface, and also beads and lateral and longitudinal cracks. Lateral cracks can be prevented by closely controlling the metal oxidation and improving the mold-coating. Longitudinal cracks are less frequent, mainly owing to the delayed shrinkage of the thinned sectors of the solidifying skin in the mold. Rimming steel ingots are hot-rolled on the 1200-mm mill, with universal roughing, two-high stand and reversing-finishing four-high stand, with coils heated in the furnace. To promote the sintering of gas-blisters, the reductions are increased (170 x 1040 mm slabs are reduced with 9 passes instead of 11, 150 x 620 mm slabs with 5 passes instead of 7).

Card 4/5

The smelting of

S/133/62/000/005/004/008
A054/A127

The slab-heating temperature was raised from 1260 - 1270 to 1280 - 1310°C. Sheets, 13 - 14 mm and 2 - 3 mm thick are rolled from these slabs. At the "Zaporozhstal" Plant the rate of consumption of the metal charge was 1.262 ton/ton of flawless product in 1960; for the new process this parameter was 1.127 - 1.135 ton/ton of flawless product. Smelting time was reduced to 4 1/2 hours; the electric power required is 500 - 550 kW-h/ton of flawless steel. The application of minimum 80-ton capacity electric furnaces and continuous pouring is advisable where cheap open-hearth scrap and electric power are available. This increases production by 8 - 12% with a minimum capital outlay. There are 3 figures. The reference to the English-language publication reads as follows: Reinartz, L., Barnes, H., Iron and Steel Engineer, no. 1, 1954. ✓

Card 5/5

BAGREYEV, Vladimir Vladimirovich; VINOKUROV, Anatoliy Ivanovich;
KISELEV, Vyacheslav Aleksandrovich; PANICH, Boris
Bentsionovich; ~~ITSKOVICH, Georgiy Mikhaylovich;~~
KONDRASHOV, D.A., inzh., retsenzent; ~~RODIONOV, A.G.,~~
inzh., retsenzent; ARKUSHA, A.I., nauchn. red.; KOZINTSOV,
B.S., nauchn. red.; VASIL'YEVA, N.N., red.; YEROMITSKAYA,
Ye.Ye., red.; SHAURAK, Ye.N., red.; KRYAKOVA, D.M., tekhn.
red.

[Collection of problems in technical mechanics] Sbornik za-
dach po tekhnicheskoi mekhanike [By] V.V.Bagreyev i dr. Le-
ningrad, Sudpromgiz, 1963. 551 p. (MIRA 16:8)
(Mechanical engineering--Problems, exercises, etc.)

CHERNAVSKIY, S.A., kand. tekhn.nauk; ITSKOVICH, G.M.; KISELEV, V.A.:
BOKOV, K.N.; BONCH-OSMOLOVSKIY, M.A.; KOZINTSOV, V.P.;
FEDOTOV, G.I., prof., retsenzent; GIL'DBERG, M.I., red.izd-
va; SOKOLOVA, T.F., tekhn. red.

[Design of mechanical transmissions] Proektirovanie mekhanicheskikh peredach; uchebno-spravochnoe posobie po kursovomu proektirovaniyu mekhanicheskikh peredach. Izd.2., perer.
[By] S.A.Chernavskii i dr. Moskva, Mashgiz, 1963. 799 p.

(MIRA 16:12)

(Power transmissions)

ITSKOVICH, G.M.; VINOKUROV, A.I.; Prinimal uchastiye:

MININ, L.S.; MAKUSHIN, V.M., laureat Leninskoy premii,
prof., retsenzent; SHPIRO, G.S., kand. tekhn.nauk, nauchn.
red.; BORODINA, N.N., red.; CHIZHEVSKIY, E.M., tekhn.red.

[Manual for solving problems on the strength of materials]
Rukovodstvo k resheniiu zadach po soprotivleniiu materialov.
Moskva, Rosvuzizdat, 1963. 351 p. (MIRA 16:8)
(Strength of materials—Problems, exercises, etc.)

GANKIN, V.B.; SLIVCHANSKAYA, V.V.; ITSKOVICH, G.M.; OYKS, G.N.

Primary structure of a continuous ingot of rimmed steel. Izv.
vys. ucheb. zav.; chern. met. 6 no.9:62-67 '63. (MIRA 16:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metal-
lurgii i Moskovskiy institut stali i splavov.

ITSKOVICH, G.M.; SAUTKIN, N.I.; LARIN, A.V.

Speed of solidification and depth of the liquid phase in a continuous ingot of low-carbon rimmed steel. Metallurg 8 no.5:10-12 My '63. (MIRA 16:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Continuous casting) (Crystallization)

ACCESSION NR: AP4014250

S/0133/64/000/002/0128/0131

AUTHORS: Slivchanskaya, V. V.; Itskovich, G. M.; Sautkin, N. I.

TITLE: Structural characteristics of a continuous ingot made of low carbon boiling steel

SOURCE: Stal', no. 2, 1964, 128-131

TOPIC TAGS: steel, melting process, pouring process, continuous pouring, ingot structure, steel ingot surface crust, bubble zone in ingot, ingot central zone

ABSTRACT: This study of continuous steel ingots made of low-carbon boiling steel showed that their structure was characterized by the presence of three zones: the external crust, the bubble zone, and the internal core. The zone of the secondary bubbles and the transition zone were absent. It was established that: 1) different structure of the crust could be obtained by regulating the intensity of metal boiling in the crystallizer; 2) gas bubbles were formed at the border of solid and liquid phases; 3) the channels were formed as the result of liquid movement away from the interdendritic spaces and toward the gas bubble during its emerging; 4) the structure in the region of gas liquefaction proved the periodical nature of crystallization; 5) the layered structure observed in the bubble zone consisted of

Card 1/2

ACCESSION NR: AP4014250

minute dendrites (globular or variously oriented) and of the liquefaction lines formed as the result of removing easily fusible components from the interdendritic spaces. Orig. art. has: 8 figures.

ASSOCIATION: TsNIICHM

SUBMITTED: 00

DATE ACQ: 03Mar64

ENCL: 00

SUB CODE: ML

NO REF SOV: 007

OTHER: 001

Card 2/2

CHERNAVSKIY, S.A.; GUT'YAR, Ye.M., prof., doktor tekhn. nauk,
retsenzent; ITSKOVICH, G.M., inzh., nauchn. red.;
GIL'DENBERG, M.I., red.izd-va; UVAROVA, A.F., tekhn. red.

[Sliding bearings] Podshipniki skol'zhenia. Moskva,
Mashgiz, 1963. 242 p. (MIRA 17:3)

ITSKOVICH, G.M.; NIKOLAYEV, N.A.; AKIMOVA, Ye.I.; KOROBOVA, N.A.; PRAVDINA,
T.E.; KAMYSHEVA, L.P.

Characteristics of continuous transformer steel ingots. Stal' 23 no.7:
643-648 JI '63. (MIRA 16:9)
(Steel ingots) (Continuous casting)

MITINSKIY, Arseniy Nikolayevich; MOVNIN, Mikhail Savel'yevich;
IZRAYELIT, Aron Borisovich; KONDRASHOV, D.A., inzh.,
retsenzent; ITSKOVICH, G.M., nauchn. red.; SHAURAK,
Ye.N., red.

[Strength of materials] Soprotivlenie materialov. 3. izd.,
dop. Leningrad, Sudostroenie, 1964. 325 p.

(MIRA 17:11)

1175-45 INT(a)/INT(b)/EWA(d)/ZWP(t) IUP(c)/AFAL/BSO/RAE(3) HR/JD
ACCESSION NR: AP4045652 S/0153/64/000/009/0788/0795

AUTHOR: Itskovich, G. M.; Sautkin, N. I.; Larin, A. V.

TITLE: Chemical inhomogeneity of a continuously cast low carbon rimmed and semi-killed steel ingot

SOURCE: Stal', no. 9, 1984, 788-795

TOPIC TAGS: rimmed steel, semikilled steel, continuous casting, inhomogeneity, manganese, phosphorous, boron, vanadium

ABSTRACT: The chemical inhomogeneity of continuously cast rimmed and semi-killed steels containing 46 to 56% was studied in the light of their suitability for deep drawn and rolled sheets. The segregation of Mn and P was negligible over the whole length of the continuously cast ingot because crystallization conditions are variable in a stable process. During continuous casting the rimming reaction is accelerated by the growing ferrostatic pressure as the ingot is being drawn. The crystallization rate is accelerated. Sulfur segregation of 77 to 94% is identified in ingots stripped at a rate of 0.6 m/min and only 48 to 94% in 1.2

L 21135-65

ACCESSION NR: AP4045652

with stripping at 0.7 m/min. Analogous to ingot teeming, segregation is more abundant as the rate of oxidation, temperature and the concentration of a given element are increased. However, unlike ingot teeming, an increased pouring rate lowers segregation. Continuously cast metal produces cold-rolled sheet with homogeneous mechanical properties along the entire length of the ingot. Vanadium and boron additions to nonaging rimmed steel further lower the chemical segregation and attains the level of semi-killed steel. Negligible segregation over the whole length of a continuously cast rimmed steel 08Fkp specimen makes the entire ingot suitable for employment in the production of deep-drawn cold-rolled sheet. T. A. Izmanova, N. D. Shepelenko, V. K. Chervyakov, N. G. Moreyn and A. M. Pamurzina participated in the investigation. Orig. art. Russ. 5 figures

ASSOCIATION: TsNIICM

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NR REF SOV: 007

OTHER: 003

Cors 2/2

ACC NR: AP6009169

SOURCE CODE: UR/0182/65/000/011/0019/0024

AUTHOR: Itakovich, G. M.; Kolesnikov, N. P.; Miranskaya, Ye. D.; Ostreyko, I. A.;
Sautkin, N. I.; Tkachev, P. N.

ORG: none

TITLE: Deep-drawability of sheet steel produced by continuous casting

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 11, 1965, 19-24

TOPIC TAGS: continuous casting, cast steel, metal stamping, metal drawing, ~~automotive~~
~~industry~~, sheet metal, *metal casting*

ABSTRACT: The article presents the results of an investigation of the properties and stampability of cold-rolled sheet steels 08kp, 10kp, 08fkp and 08ps, produced by the continuous casting method as compared with steel obtained from conventionally cast ingots. Stampability was investigated at the pressforging shop of the Minsk Low-Displacement Motor Vehicle Plant. Prior to the deep drawing of intricately shaped automotive body parts the specimens were subjected to mechanical tests and metallographic examinations which showed that sheet steel produced by continuous casting meets the requirements of the standards for quality structural sheet steel and that its ferrite grains are of a sufficiently small size to favorably affect the quality of the surface of elements during their deep drawing. Stampability under production

Card 1/2

UDC: 621.933.3

1. 2005-00

ACC NR: AP6009169

conditions was determined during the drawing of a number of components of the Moskvich car: an analysis of the stress-strain diagram during drawing established that the plasticity margin of the metal is comparatively high during the embossing of most of the components investigated. An exception is the stress-strain diagram during the die-stamping of lower crankcases. The deep drawing of the crankcase involves limiting values of the plasticity margin in a number of sectors of the component and in some cases the embossing culminates in total exhaustion of the metal's plasticity. Compared with steel deriving from conventionally cast ingots, the proportion of defective components fabricated from steel produced by continuous casting was appreciably lower. These findings point to a satisfactory stampability of steel produced by continuous casting and the possibility of using this steel for the deep drawing of elements fabricated from metal meeting the (lower) requirements of the All-Union State Standard GOST 914-56. Orig. art. has: 5 figures, 3 tables.

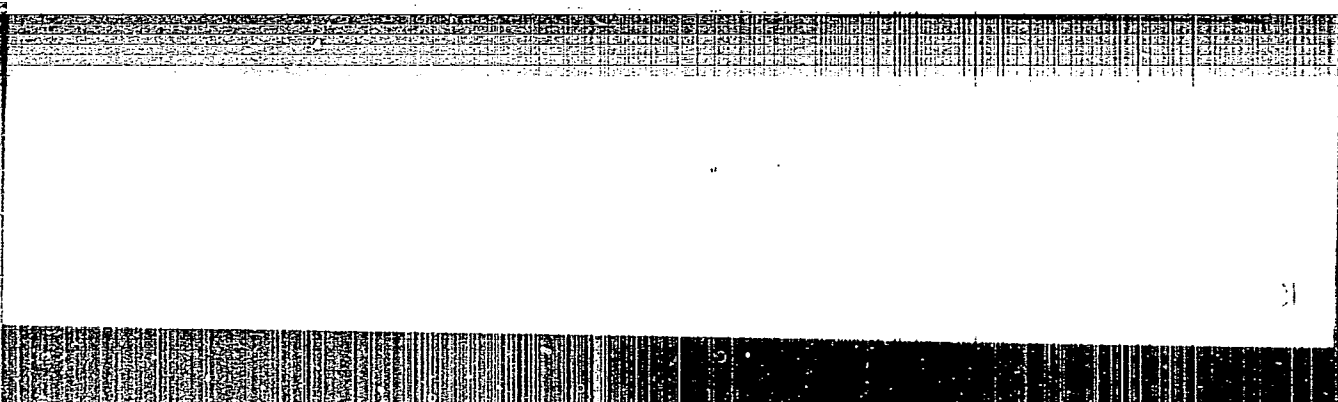
SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 000

Card

2/2 mgs

"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2



APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2"

S/124/60/000/003/011/017
A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 3, pp. 52-53,
3293

AUTHORS: Kolosovskaya, A. K., Itskovich, I. A.

TITLE: The Three-Dimensional Problem of Ideal-Liquid Flow Around Porous Obstacles

PERIODICAL: Uch. zap. Kishenevsk. un-ta, 1954, Vol. 11, pp. 29-47

TEXT: The authors set the problem of flow around a thin-walled porous body by an ideal fluid, the motion of which is assumed to be potential both inside and outside the body. If the obstacle is limited by a surface of revolution relative to an axis parallel to the flow speed direction at infinity, the problem may be reduced to a certain nonlinear singular integral equation of a special shape. It can be solved by the method of successive approximations in case of a sphere. See the minute abstract in RZhMat, 1955, No. 9, # 4491. ✓B

Card 1/1

ITSKOVICH, I. A.

USSR/Mathematics - Olympiad

FD-1184

Card 1/1

Pub. 118-25/30

Author : Itskovich, I. A., and Sibirskiy, K. S.

Title : School mathematical olympiad in the city of Kishinev

Periodical : Usp. mat. nauk, 9, No 3(61), 263-265, Jul-Sep 1954

Abstract : Beginning in the autumn of 1948, a school circle has been active in the physico-mathematical faculty of Kishinev State University; in this circle students of the senior classes in the city schools have heard lectures on mathematics, physics, astronomy, mechanics, and history of science. In the 1952/1953 academic year the students heard reports by: Prof. V. I. Kostin, Docent V. A. Andrunakiyevich, Docent A. S. Bolotin, Docent I. A. Itskovich, Aspirant K. S. Sibirskiy, senior instructor S. A. Freydkin. School olympiads have been held in 1949, 1950, 1952, and 1953. A list of problems posed for the students is given.

Institution :

Submitted :

ISKOVICH, I.A.

16(1)

PHASE I BOOK EXPLOITATION

SOV/2660

Vsesoyuzny matematicheskiy s"ezd. 3rd, Moscow, 1956
Trudy. t. 4: Kratkoye soderzheniye sektsionnykh dokladov. Doklady
Inostrannykh uchennykh (Transactions of the 3rd All-Union Mathema-
tical Conference in Moscow. vol. 4: Summary of Sectional
Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959.
247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskii Institut.

Red. M.M. G.M. Shvachko; Editorial Board: A.A. Abramov, V.O.
Mityasovskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Ryshki, S.M.
Mikhlin'skiy (assp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, E.A.
Rybnikov, P. L. Ul'yamov, V.A. Uspenskiy, M.O. Chetayev, O. Ye.
Shilov, and A.I. Shirshov.

REMARKS: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-
Union Mathematical Conference, held in June and July 1956. The

book is divided into two main parts. The first part contains a sum-
maries of the papers presented by Soviet scientists at the Con-
ference that were not included in the first two volumes. The
second part contains the text of reports submitted to the editor
by non-Soviet scientists. In those cases when the non-Soviet sci-
entist did not submit a copy of his paper to the editor, the title
of the paper is cited and, if the paper was printed in a previous
volume, reference is made to the appropriate volume. The papers,
both Soviet and non-Soviet, cover various topics in number theory,
algebra, differential and integral equations, function theory,
analysis, probability theory, topology, mathematical
problems of mechanics, dynamics, and astronomy, mathematical
mathematical logic and the foundations of mathematics, and the
history of mathematics.

Yel'shin, M.I. (Moscow). Qualitative theory of a linear dif-
ferential equation of the second order 20

Yadashov, I.M. (Sverdlovsk). The boundary value problems for
systems of ordinary differential equations 21

Zhebr, V.I. (Leningrad). Representation of the solutions of
systems of differential equations in the neighborhood of singu-
lar initial data 22

Zhebr, V.I. (Leningrad). Solution of the stability problem
by the first method of A.M. Lyapunov 23

Il'in, A.M. (Moscow). On degenerate equations of elliptic
and parabolic type 23

Trubnikov, I.A. (Khabarovsk). New proof of the Riemann-
Hilbert theorem 24

Kiselev, A.A. (Leningrad). Studies on the hydrodynamics of
a viscous liquid 25

Card 6/13

89556

S/044/60/000/008/028/035
0111/0222

№.3400

AUTHORS: Itskovich, I.A., and Kirshner, M.Ya.

TITLE: Homogeneous generalized functions

PERIODICAL: Referativnyy zhurnal. Matematika, no.8, 1960, 145-146,
abstract no. 9151. Uch. zap. Kishenevsk. un-ta, 1959, 39,
243-245

TEXT: The authors consider the derivatives of the generalized
function x^{-1} for which

$$(x^{-1}, \varphi) = \lim_{\varepsilon \rightarrow +0} \left\{ \int_{-\infty}^{-\varepsilon} \frac{\varphi(x)}{x} dx + \int_{\varepsilon}^{\infty} \frac{\varphi(x)}{x} dx \right\},$$

where $\varphi(x)$ is a finite infinitely often differentiable function. They
give formulas for the calculation of the convolutions of the derivatives
(in the sense of the generalized functions) of these functions with the
finite infinitely often differentiable function as well as composition
formulas.

[Abstracter's note: The above text is a full translation of the original
Soviet abstract.]

Card 1/1

KHUSID, S.Ye.; ITSKOVICH, I.A.; LITVAK, I.S.; LOBOV, I.M.

Using the Ural-1 computer for calculating tapering devices. Izv.
tekh. no.3:56-57 Mr '65. (MIRA 18:5)

ITSKOVICH, I. D.

29282 Klinicheskaya kharakteristika gemorragicheskoy likhoradki v Uzbekistane.
V sb: Nauch. sessiya Akad. nauk UzSSR 24-28 yanv. 1949 g. Doklady Med. Sektsii.
Tashkent, 1949, s 86-96

SO: Letopis' Zhurnal'nykh Statey. Vol. 39, Moskva, 1949

ITSKOVICH, I. D.

KATSENOVICH, A.L.; ITSKOVICH, I.D.

Clinical aspects of hemorrhagic diathesis. Klin.med., Moskva no.4:
51-55 Ap '50. (GLML 19:3)

1. Of the Clinic of Infectious Diseases (Director -- Prof. A.L.Katse-
novich), Tashkent Medical Institute imeni V.M.Molotov.

1. KATSENOVICH, A. L., ITSKOVICH, I. D.
2. SSSR (600)
4. Uzbekistan-Hemorrhagic Fever
7. Clinical aspects of hemorrhagic fever in Uzbekistan.
Vop. kraev. pat. No. 2, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

ITSKOVICH, Kh.

Improve the planning of capital investments on state farms.
Sil'. bud. 12 no.10:21 0 '62. (MIRA 15:10)

1. Nachal'nik otdela finansirovaniya kapitalovlosheniy Ukrainskoy
respublikanskoy kontory Gosbanka.

(Capital investments) (State farms—Finance)

ITSKOVICH, M.L., inshener.

Using needle-filter piles for fastening collectors of a drainage
installation. Sbor.mat.o nov.tekh.v stroi. 15 no.10:11-12 '53.

(MLRA 6:12)

(Drainage)

ITSKOVICH, M.L., inzhener; DUKHIN, Ye.Ye., inzhener.

Sight shafts made of asbestos cement pipes. Nov.tekh.i pered. op.
v stroi. 19 no.2:24 F '57. (MLRA 10:4)
(Pipe, Asbestos-Cement) (Sewerage)

~~TSKOVICH, M.L.~~, KURDYUMOV, M.D., GEZENTSVEY, L.B., red.; PROTSENKO, D.I.,
red.izd-va., RAKITIN, I.T., tekhn.red.;

[Outside water, sewer, and drainage networks in relation to city streets;
reference manual for contractors] Naruzhnye seti vodoprovoda i kanali-
zatsii, vodostoki i gorodskie dorogi; spravochnoe posobie proizvoditellu
rabot. Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1958. 263 p. (MIRA 11:9)
(Municipal engineering)
(Streets)

ITSKOVICH, Mark Leont'yevich; KURDYUMOV, Mikhail Dmitriyevich; GEZENTSVEY,
L.B., red.; BOLOTINA, A.V., red. izd-va; IELIYUKHIN, A.A., tekhn. red.

[Underground sewers and water pipes and their relation to municipal streets] Podzemnye sanitarno-tekhnicheskie kommunikatsii i gorodskie dorogi; spravochnoe posobie proizvoditeliu rabot. Izd.2., perer. i dop. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1961. 286 p.
(MIRA 14:12)

(Sewerage) (Water pipes) (Streets)

ITSKOVICH, N.

14-1-796

Summary translation from: Referativnyy Zhurnal, Geografiya, 1957,
Nr 1, p. 98 (USSR)

AUTHOR: Itskovich, N.

TITLE: Results of an Investigation made in 1952 on the use of
the Integral Method of Measuring Water Discharge on the
Amu-Dar'ya (Rezultaty issledovaniya primeneniya
integral'nogo metoda zamera raskhoda vody na reke Amu-
Dar'ya v 1952 g.)

PERIODICAL: In Sbornik: Stud. rabot Sredneaz. un-ta, 1954, Nr 8,
pp. 3-10

ABSTRACT: The integral method of measuring the discharge of water
was compared with the generally used hydrometric method.
Results of the first method deviated from those of the
second within a range of 9-20%.

ASSOCIATION: Central Asiatic University (Sredneaz. un-t)

Card 1/1

ITSKOVICH, Naum Markovich; MITKALINYY, V.I., redaktor; KARASEV, A.I.,
tekhnicheskiy redaktor

[Methods for approximate calculation of heating furnaces] Metody
priblizhennykh raschetov nagrevatel'nykh pechei. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1957, 99 p. (MLRA 10:4)
(Metallurgical furnaces)

SOV/137-59-5-9544

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 10 (USSR)

AUTHOR: Itskovich, N.M.

TITLE: Intensified Operation of Chamber Heating-Furnaces

PERIODICAL: Nauchn. zap. Odessk. politekhn. in-t, 1957 (1958), Vol 17, pp 81 - 108

ABSTRACT: The author investigated various means of increasing the efficiency of chamber heating-furnaces. A raise in the efficiency of the furnaces may be considerably furthered by the arrangement of the blanks in several rows along the height. It is described by the following function

$$g''/g' = 2 [1 - (1 - \Psi') / [1 - (1 - \Psi)^2],$$

where g'' and g' are the specific efficiency, in kg/m^2 per hour;

Ψ is the angular coefficient of a fagot of blanks in the cupola,

n is the number of rows along the height. The suggested method

of arranging the blanks is particularly advantageous if there is a large spacing between them and if two-side heating takes place.

Card 1/2

The coefficient of heat exchange σ_b can be raised more intensively

SOV/137-59-5-9544

Intensified Operation of Chamber Heating-Furnaces

by a higher degree of gas blackening than by increased height of the chamber (extension of stacking). Insofar as precise data on the emission of C black particles are not available, it is suggested to calculate σ_p on the basis of radiation by gases. The main means to intensify furnace operation is to increase the gas temperature; this is the basis of speeded-up heating. It is, however, necessary to consider the magnitude of the admissible temperature drop along the blank thickness and safe temperature of stacking. Conversion to speeded-up heating process ensures a considerable raise of efficiency, economy of fuel and reduced metal loss.

M.M.

Card 2/2

18(3)

SOV/163-59-2-20/48

AUTHOR: Itskovich, N. M.

TITLE: The Heat Efficiency of Recuperative Heating Chambers With Central Burner (Teplovaya rabota rekuperativnykh nagrevatel'nykh kolodtsev s tsentral'noy gorelkoy)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 109 - 116 (USSR)

ABSTRACT: The heating of ingots in the chambers mentioned in the title is investigated. Formulas are derived for the heat exchange within the chamber, proving that the spatial distribution of the ingots exerts an influence. The temperature of the inner walls, the time required for the heating, and the heat currents and temperatures on the individual sides of the ingots (facing the flame, the wall or the neighboring ingot) are also calculated. Figure 1 shows the top view of the chamber and the position of the ingot. Figures 3 and 4 show the temperatures within the ingot during the heating periods, and their course from the front to the back surface. On the basis of a computation carried out on a practical example, it is ascertained (Tables 1 and 2), that by charging the chamber with 12 instead of 16 ingots, the heating

Card 1/2

The Heat Efficiency of Recuperative Heating Chambers
With Central Burner

SOV/163-59-2-20/48

time is considerably shortened, and the heating of the ingots proceeds more regularly. There are 4 figures, 2 tables, and 2 Soviet references.

ASSOCIATION: Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute)

SUBMITTED: February 22, 1958

Card 2/2

ITSKOVICH, N.M.

Raising the output of heating furnaces. Inv. vys. ucheb. zav.
energ. 3 no.2:83-91 P '60. (MIRA 13:2)

1.Odesskiy politekhnicheskiy institut.
(Furnaces)

ITSKOVICH, N.M., kand.tekhn.nauk, dotsent

Utilization of heat in rolling mill shops with direct counterflow heating furnaces. Izv. vys. ucheb. zav.; energ. 4 no.7:61-68
Jl '61. (MIRA 14:7)

1. Odesskiy politekhnicheskiy institut. Predstavleno kafedroy promteplotekhniki.
(Furnaces, Heating) (Rolling mills) (Boilers)

ACCEPTED IN NEW YORK

8/0181/64/006/010/3156/3157

Chernovitch, P. Yu. *Hydrodynam.* 5, 6.

TITLE: Detection of dislocations in NaI(Tl) single crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 10, 1964, 3156-3157

1. Crystal - crystal, thallium activated crystal, single crystal, etc.
2. Crystal - crystal, thallium activated crystal, single crystal, etc.
3. Crystal - crystal, thallium activated crystal, single crystal, etc.

formulations for evaluating the test results and for determining the degree of agreement between the two methods. The results of the study are presented in the form of a table and a graph. The table shows the results of the test results and the degree of agreement between the two methods. The graph shows the results of the test results and the degree of agreement between the two methods.

Card 1/2

DISPOSITION: A-1000-1

Single (crystal)

SUBMITTED: 11 May 64

ATD PRESS: 3115

ENCL: 00

SUB CODE: 3S

NO REV SOV: 002

OTHER: 003

CONFIDENTIAL

ITSKOVICH, S.

Manufacture of ribbon grooved tile. Sil'. bud. 11 p. 9:18-19
S '61. (MIRA 14:11)

1. Golovniy inzhener upravleniya promisllovosti mistseвого
pidporyadkuvannya Zakarpats'koi oblasti.
(Transcarpathia--Tiles)

ITSKOVICH, S.M.

Resonance device. Mekh. stroi. 18 no.5:25-26 My '61. (MIRA-14:7)
(Concrete reinforcement--Equipment and supplies)

AKHVERDOV, I.N., doktor tekhn.nauk; ITSKOVICH, S.M., inzh.

Method for tensile testing concrete by splitting samples. Bet. 1
zhel.-bet. no.1:19-23 Ja '61. (MIRA 14:2)
(Concrete--Testing)

S/137/63/000/002/026/034
A005/A101

AUTHORS: Izraelit, M. M., Itskovich, S. M.

TITLE: Investigating the effect of heating upon the properties of strengthened steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1963, 64, abstract 2I364
(In collection: "Stroit. materialy iz mestn. syr'ya", Minsk, 1962, 95 - 103)

TEXT: The authors studied the effect of extrusion, heating in a furnace, and electric heating upon the mechanical properties of 25Г 2 С (25G2S) steel rod fittings of periodic sections. One series of the specimens was extruded by 3.5%; the other series was heated by the electrothermal method, mounted on a mold for the manufacture of covering panels, and tested after cooling and tension. It was found that extrusion increased σ_s by 22.6%. Electric heating increases σ_s additionally by 11.3%. Heating of specimens strengthened by extrusion in an electric furnace within a range of 200 - 300°C, raises σ_s by 10%, σ_b by 5%; heating up to 400°C in a furnace does not raise σ_s ; heating to 500°C reduces σ_s down to the

Card 1/2

Investigating the effect of...

S/137/63/000/002/026/034
A006/A101

level of non-strengthened specimens. Multiple extrusion by 3.3% with intermediate recrystallization heating at 500°C during 2 hours, and the last heating operation by 300°C during 10 min, entailed after alternating extrusion an increase in σ_s from 4,650 to 6,305 kg/cm². Uniform δ was 6.1%, E did not change. The problem on the practical use of the described method of strengthening should be studied.

N. Kalinkina

[Abstracter's note: Complete translation]

Card 2/2

IZRAYELIT, M.M., inzh.; ITSKOVICH, S.M., inzh.

Properties and use of agloporite concrete. Sbor.trud.VNIINSM
no.6:188-190 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut stroitel'nykh materialov
soveta narodnogo khozyaystva Belorusskoy SSR.
(Lightweight concrete--Testing)

ITSKOVICH, S.M., inzh.

Relation between the volumetric weight and the strength of
cellular concrete. Stroi. mat. 8 no.4:36-37 Ap '62.

(MIRA 15:8)

(Lightweight concrete--Testing)

ITSKOVICH, S.

Resonance device for checking stress in reinforcement. Stroitel'
8 no.7:28-29 J1 '62. (MIRA 15:8)
(Concrete reinforcement--Testing)

ITSKOVICH, S.M., inzh.

Study of the strength of porous aggregates in concrete. Stroi.
mat. 8 no.8:36-37 Ag '62. (MIRA 15:9)
(Aggregates (Building materials)---Testing)

PETROV, L.K., kand. tekhn. nauk; ITSKOVICH, S.M., inzh.; SHUBIN, M.I., inzh.

Porous-slotted ceramic bricks and products made from them.
Stroi. mat. 9 no.7:9-11 J1 '63. (MIRA 16:11)

AKHVERDOV, I.N.; ITSKOVICH, S.M.

Resistance of concrete to biaxial stretching. Dokl. AN BSSR 8
no. 1:44-46 Ja '64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut stroitel'stva i arkhi-
tektury Gosstroya BSSR.

PETROV, L.K., otv. red.; BAZAYEVA, L.A., red.; ITS KOVICH, S.M.,
red.; KORENEVICH, N.P., red.; KOROBEYNIKOV, Yu.Ye., red.

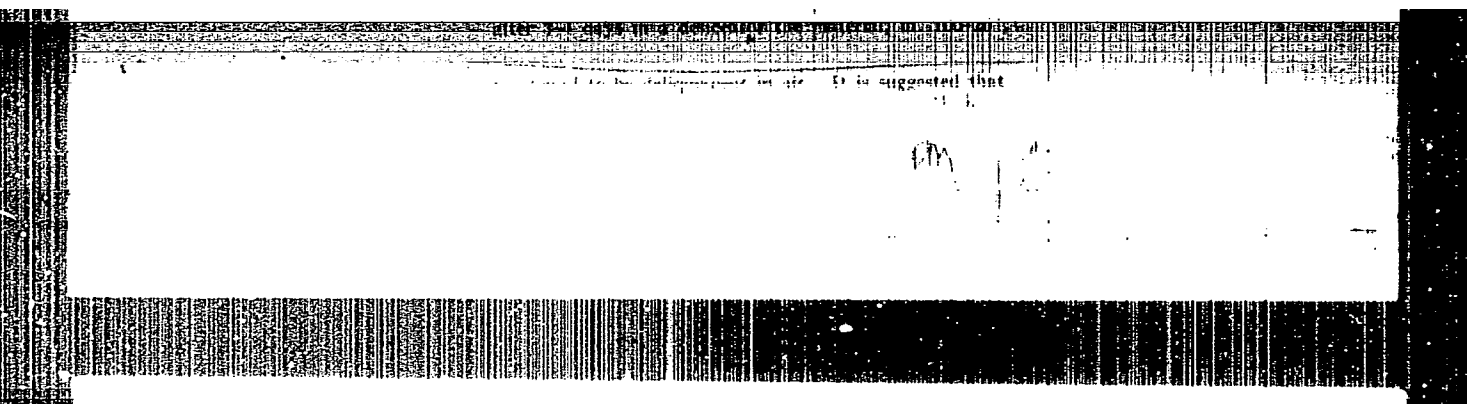
[Agloporite and agloporite concrete] Agloporit i agloporito-
beton. Minsk, Nauka i tekhnika, 1964. 390 p.

(MIRA 18:5)

1. Minsk. Gosudarstvennyy nauchno-issledovatel'skiy institut
stroymaterialov.

"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2



APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2"

ITSKOVICH, T. B.

Dissertation: "Complex Compounds of Bivalent Platinum with Trimethylphosphite and Its Derivatives." Cand Chem Sci, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR, 11 Jun 54. (Vechernyaya Moskva, Moscow, 2 Jun 54)

SO: SUM 318, 23 Dec 1954

"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618920012-2"

5(2)

SOV/78-4-1-16/48

AUTHORS: Grinberg, A. A., Itskovich, T. B., Troitskaya, A. D.

TITLE: On the Question of the Structure of Phosphorous Acid and Its Derivatives (K voprosu o stroenii fosforistoy kisloty i yeye proizvodnykh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 79-81 (USSR)

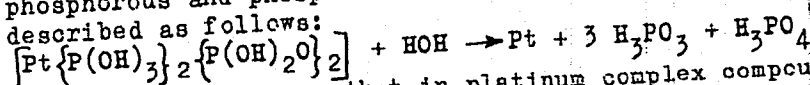
ABSTRACT: The reciprocal effect between an aqueous solution of potassium chloroplatinate, trimethyl phosphite and dimethyl phosphorous acid was investigated. The experimental data on the saponification process of dimethyl phosphorous acid and its complexes were found by measuring the change of the pH value. Equal concentrations of aqueous solutions of dimethyl phosphorous acid and $[Pt\{P(OCH_3)_2OH\}_2\{P(OCH_3)_2O\}_2]$ were heated in a water bath at 100° . After a certain time the pH value was measured at 20° in order to find out the difference of saponification between free dimethyl phosphorous acid and the acid coordinatively bound with bivalent platinum as an addendum. It

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000618920012-2"

S07/78-4-1-16/48

On the Question of the Structure of Phosphorous Acid and Its Derivatives

free dimethyl phosphorous acid saponifies quicker during the first 15 minutes with a considerable reduction of the pH value of the solution. The saponification of group $P(OCH_3)_2OH$ in the complex $[Pt\{P(OCH_3)_2OH\}_2\{P(OCH_3)_2O\}_2]$ is insignificant. The qualitative and quantitative determination of the final products of the platinum complex saponification showed platinum, phosphorous and phosphoric acid. The saponification process is described as follows:



The experiments prove that in platinum complex compounds the addenda of dimethyl phosphorous acids and phosphorous acid contain trivalent phosphorus. There are 1 figure, 2 tables, and 9 references, 7 of which are Soviet.

SUBMITTED: October 26, 1957

Card 2/2

TEPLITSKAYA, A.M.; SHMEL'KOVA, L.P.; PEREPLETCHIK, R.R., spetsred.; ITSEKOVICH, V.A., red.; FORMALINA, Ye.A., tekhn. red.

[Use of biomycin in the fishing industry] Opyt primeneniia biomitsina v rybnoi promyshlennosti. Moskva, Izd-vo zhurnala "Rybnoe khoziaistvo" VNIRO, 1960. 22 p. (MIRA 14:10)

1. Tikhookeanskiy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii (for Teplitskaya, Shmel'kova).
(Aureomycin) (Fishery products—Preservation)

VOSKRESENSKIY, Nikolay Aleksandrovich; YUDITSKAYA, Alla Ivanovna;
LEBDEVA, Tamara Mikhaylovna; ITSKOYICH, V.A. red.; TE-
NYAKOV, A.I., spets. red.; FORMALINA, Ye.A., tekhn. red.

[Comparative evaluation of various methods of fish smoking]
[Sравnitel'naya otsenka razlichnykh sposobov kopcheniya.
Moskva, Vses. nauchno-issl. in-t morskogo rybnogo khoziaistva
i okeanografii, 1960. 41 p. (MIRA 14:5)
(Fish, Smoked)]

38224

S/190/62/004/006/010/026
B101/B110

15.2340
AUTHORS:

Mal'tsev, V. I., Lebedev, V. B., Itskovich, V. A.,
Petrov, A. A.

TITLE:

Nitrogen-containing polymers with paramagnetic properties

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962,
848-850

TEXT: Black, insoluble powders with paramagnetic and semiconductor properties were obtained in the course of studying the oxidation of aniline, diphenyl amine, and triphenyl amine by concentrated sulfuric acid. They contained 0.3-1 S atoms per N atom. After heating to 100°C, irradiating with ultraviolet light, passing an electric current through them, or cooling to -180°C, these polymers showed an increased epr signal intensity lasting some months. The authors discuss the origin of paramagnetism in these polymers taking account of published data concerning polydiphenyl aminoquinones or mixtures of quinone and amine powders. Transition of part of the unpaired electrons of nitrogen into the triplet state is assumed. The effects of heating and of electric current on the

Card 1/2

Nitrogen-containing polymers ...

S/190/62/004/006/010/026
B101/B110

epr signal is explained by the disappearance of moisture and ions. After passing electric current through them, the polymers showed accumulator properties in that they delivered emf. There is 1 table. The most important English-language reference is: D. Bejl, H. Kainer, A. C. Rose-Innas, J. Chem. Phys., 30, 765, 1959. 4

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: April 6, 1961

Card 2/2

MAL'TSEV, V.I.; ITSKOVICH, V.A.

Nitrogen-containing oxidation products of aromatic amines having
paramagnetic properties. Part 2. Vysokom.soed. 5 no.9:1367-1370 S
'63. (MIRA 17:1)

1. Leningradskiy tekhnologicheskij institut imeni Lensoвета.

BABEL', V.G.; PROSKURYAKOV, V.A.; ITSKOVICH, V.A.

Oxidation of higher monocarboxylic acids by atmospheric oxygen.

Zhur. prikl. khim. 38 no.5:1178-1181 My '65, (MIRA 18:11)

1. Leningradskiy tekhnologicheskii institut imeni Lennoveta.

PATYCHENKO, V.S., inzh.; GOL'DENFARB, I.N., inzh.; ITSKOVICH, V.Ya., inzh.

Concerning the collection "Atlas of boiler units" under the
general editorship of A.P.Kovalev. Teploenergetika 7 no.3:
95 Mr '60. (MIRA 13:5)

(Boilers)
(Kovalev, A.P.)

ITSKOVICH, Ya.S.

MOREV, N.Ye.; ~~ITSKOVICH, Ya.S.~~

Mechanized pan bread production line. Khleb. i kond. prom. 1 no.1:
12-21 '57. (MIRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khlebopekarnoy
promyshlennosti
(Bakers and bakeries--Equipment and supplies)

MOREV, N.Ye.; ITSKOVICH, Ya.S.; SYTIN, N.I.

Complex mechanized TsNIIKHP-M-3-59 make production line for
making stick bread. Trudy TSNIIKHP no.8:10-12 '60. (MIRA 15:8)
(Bakers and bakeries--Equipment and supplies)
(Assembly-line methods)

GOLUBEV, N.A.; ITSKOVICH, Ya.S.; VIKULOVA, L.N.

Model 1958 travelling ~~FTL-2~~ oven with 24 cradle pans. Trudy
TSNIIKHP no.8:30-32 '60. (MIRA 15:8)
(Ovens) (Bakers and bakeries—Equipment and supplies)

ITSKOVICH, Ya.S.; SHEPELEV, I.K.

Conveyor for bread cooling. Trudy TSNIKHP no.8:32-34 '60.

(MIRA 15:8)

(Conveying machinery) (Bakers and bakeries--Equipment and supplies)

ITSKOVICH, Ya.S.; SHPIGEL'GLYAS, A.S.

Automatic TsNIIKHP-0-4-59 make membrane weighing and proportioning
station. Trudy TSNIKHP no.8:34-35 '60. (MIRA 15:8)
(Proportioning equipment) (Automatic control)

ITSKOVICH, Ya.S.; SHPIGEL'GLYAS, A.S.; MEL'TSER, I.A.; KURAMSHIN, Yu.N.

Apparatus of TsNIIKHP-L-1-58 make for the inspection of baker's
yeast quality. Trudy TSNIIKHP no.8:35-36 '60. (MIRA 15:8)
(Yeast--Testing) (Bakers and bakeries--Equipment and supplies)

KAPITANOFULLO, Yu.M.; MUKHIN, V.V.; TESKOVICH, Ya.S.; DUBOVA, B.I.;
CHUSOVA, T.Ya.

Testing the TsNIIKHP-KS-1-57 conveyor dryer. Trudy TSNIIKHP
no.8:74-77 '60. (MIRA 15:8)
(Drying apparatus)

GOROSHENKO, Mikhail Konstantinovich; NUDEL'MAN, G.E., inzh.,
retsenzenti SHMAIN, M.M., inzh., retsenzenti; ITSKOVICH,
Ya.S., inzh., spets. red.; PRITYKINA, L.A., red.; SOKOLOVA,
I.A., tekhn. red.

[Machines and machinery units for dough preparation] Mashiny
i agregaty dlia prigotovleniia testa. Moskva, Pishcheprom-
izdat, 1963. 147 p. (MIRA 16:8)
(Bakeries--Equipment and supplies)

MOREV, N.Ye.; MOLODYKH, V.N.; ITSKOVICH, Ya.S.; SUVORKIN, G.V.

Mechanized production line with a 2 to 3 ton per day capacity for
the manufacture of fancy rusks. Trudy TSNIKHP no.10:5-20 '62.
(MIRA 18:2)

ITSKOVICH, Ya.S.; LUK'YANOVA, N.D.

Laboratory dough mixer with a recording instrument. Trudy TSNIKHP.
no.10:21-27 '62. (MIRA 18:2)

ITSKOVICH, Ya.S.; SHPIGEL'GLYAS, A.S.

Device for rapid moisture determining. Trudy TSNIIKHP no.10:
28-29 '62. (MIRA 18:2)

ITSKOVICH, Ye.A., kandidat tekhnicheskikh nauk.

~~ITSKOVICH, Ye.A.~~
Quality criteria for sawed surfaces. Der.prom. 4 no.4:14-15
Ap '55. (MIRA 8:6)

1. Sibirskiy lesotekhnicheskiy institut.
(Woodwork) (Surface Technology))

ITSKOVICH, Ye. A.

128-58-4-12/18

AUTHORS: Boldyrev, V.A.; Kotomchanina, M.S.; Itskovich, Ye.A., Engineers

TITLE: Use of Oil-Less "BTK" "Core Binder for Magnesium Castings"
(Primeneniye bezmaslyanogo krepitelya "BTK" dlya magniyevogo
lit'ya)

PERIODICAL: Liteynoye Proizvodstvo, 1958, No. 4, p 26 (USSR)

ABSTRACT: The oil-less core binder "BTK" - which can replace the scarce oil binders "4 GU", "4 GR" and the "S" oil - consists of 40-45% low-melting petroleum asphalt of "BN-2" or "BN-3" grade, and 60-55% kerosene solvent "TS-1" (Tuymazinskiy). This oil-less binder has a low gas-generating capacity, and the quality of castings has improved since it is used; it is 10 times less expensive than "4 GU". The short article gives information on the composition of the core mix with which the new binder is used, and on the "BTK" binder production process.

AVAILABLE: Library of Congress

Card 1/1 1. Castings 2. Core composition-Economic aspects